

Community Assistantship Program

**Implementing the LOCI Software in
Minnesota: Tests in Benton, Sherburne
and Wright Counties**

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Prepared in partnership with
Benton, Wright & Sherburne County EDAs

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Implementing the LOCI Software in Minnesota: Tests in Benton, Sherburne and Wright Counties

1. Introduction

Local Economic Impact Analysis (LOCI) is an economic impact analysis software program designed by Georgia Tech's Economic Development Research Program for local governments and economic developers to help them make sound decisions on issues such as incentives to attract new businesses or to retain or expand an existing business in their community. LOCI was provided to counties' economic development agencies by the Minnesota Association of County Professional Economic Development (MAPCED). Most of these agencies needed to get a better understanding of this software and its adaptability to the particular situation of local government in Minnesota. This is why economic development organizations in three Minnesota Counties (Benton, Sherburne, and Wright) ordered this research.

The three counties for which the test has to be performed have similar characteristics. They are among the fastest growing counties in Minnesota, located between the Twin Cities and St. Cloud. They all have experienced rapid residential growth in the last twenty years. Their economic development agencies are moved by very similar goals of creating quality job for the residents, increasing the tax base and diversifying economic activities in their respective counties¹.

The project had the following objectives²:

- (i) Research the use of the LOCI program and understand its purpose;
- (ii) Research and determine the most appropriate information for input in the LOCI program for each county and the government units that they encompass;
- (iii) When necessary, research and document why and when certain data will be used;
- (iv) Research a business in each of the three counties to understand the process;
- (v) Provide training to staff of the three counties to understand the process;

¹ See Project's Proposal, p. 2.

² Ibid., p. 3.

- (vi) Document findings of the research so that all counties that have the LOCI program may find it more user-friendly.

2. LOCI: Possibilities

LOCI is not aimed at replacing decision makers, but it is just a tool available to them to help them make decisions about giving financial incentives to a business to locate or stay in the community. Following are three important topics that can help understand LOCI's possibilities that this section will develop: levels of analysis, data entry and treatment and government entities susceptible of running the analysis.

Levels of Analysis

There are three level of analysis you can run with LOCI³:

- (i) Level 1 analysis is a quick analysis of a small project limited to the sales and property taxes paid by the facility, the public cost to develop the

facility, and the cost of supplying services to the facility.

- (ii) Level 2 analysis adds the activities of the employees of the facility including sales and property taxes, utilities charges and fees they pay (on the revenue side), as well as the costs of providing additional services on the cost side.
- (iii) Level 3 analysis adds the impact of the facility (and its employees) on the local economy. As the facility and its employees purchase items locally, they increase local incomes that are respent on other local and non-local items. Local purchase continue to circulate within the local economy, inducing a higher level of economic activity.

Data.

LOCI is an accounting software program that gets data related to cost and revenues that the considered business can bring to the community and gives back estimated returns on local government's financial assistance or incentive provided to this business. It helps Local Government pursue objective and cost-

³ See LOCI's Overview at http://www.ceds.gatech.edu/loci/loci_overview.html.

effective development strategies by providing information needed to decide how far the government can go in granting incentive requests. It supports the community's side in the negotiating process by providing the information about how government costs may change and by helping to understand how a local economy works.

It is therefore very important to consistently follow a double-entry accounting principle; i.e. when entering data, for every data item entered there should be revenues and costs sides associated to that entry. For example, if you choose to enter a utility provided by the community, you need to make sure that you have entered all the revenues and costs associated to the provision of the given utility.

We used 1999 as base year. There are two types of data to enter: community data and project data. Community data are data related to the community activities. They will be the same for all projects in the same community. By community, it is meant the government entity to which the financial assistance or incentive is requested and for which the economic impact analysis is run. Project data are data from business(es) for

which the economic impact analysis is run. Once you have entered community and project data, you are ready to run the analysis. This analysis is a pairwise analysis entering at the same time in the "black box" community and project analysis and giving back results. Following is an input data form giving a summary of our understanding of the LOCI operating process.

I. COMMUNITY DATA

	Input	Computation Mode	Intended Use in Model Projection
1. Property and Sales Tax Information			
Sale Tax rate collected by jurisdiction only	No Sales Tax Collected in the studied counties		
Property Tax Information	Data to be found from Local Government Services	Per Household Basis	Used to project the residential property taxes from facility employees and to compute the multiplier effect of property taxes for both residential and commercial and industrial properties expansion due to the new business.
2. Utility Data			
Water, Waste Water, Solid Waste, Electricity, and others.	Only provided by cities in most of the case in Minnesota.	2 ways of computing costs: - Average Costs based upon the existing cost and assuming that future additions to this cost will increase accordingly (this seems to be the most important way of projection	Used to project the expected revenues and costs consecutive to the new business based on the applicable utility rates and the expected level of usage by the facility and new households expected to reside in the community.

		<p>used by the software program);</p> <p>- Marginal Costs where costs are “lumpy”. In this case, the cost appears as a lump-sum cost in the year zero of the analysis</p>	
3. Retail Activity Data	Not relevant as there are no sale taxes in the counties for which the work was done.		
4. Local Government revenues and costs	Costs and revenues to the Local Government due to the new business	The program project on a per household basis the expected increase of costs or revenues due to the new business.	Used to project the expected revenues and costs for the local government consecutive to the new business.
5. Demographic information	Obtained by surveying employers in the region, consulting the “Census” and school	Projected based on the current characteristics of local population.	Used to predict the number of new households and pupils due to the new business.

	district data.		
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6. Economic Information:	Essentially used default data provided with the software.		
7. Tourism Information	Needed if the project has a touristy aspect.		

II. PROJECT DATA

	Input	Computation Mode	Intended Use in Model Projection
1. Project Set Up	Project's description (location and start and end year for the analysis), industrial SIC code and, if using local data multiplier option, SIC codes of up to six local vendors.	Input-Output Analysis	Needed to project the multiplier effect of the new business on local economic activities.
2. General Facility	Needed to define a variety of general inputs for the facility: construction and equipment costs, local sales and purchases by the facility, local fees and taxes on the facility.	A percentage of these amounts is expected to be spent in the local community and subject to local sales taxes.	Used to capture sales tax, annual license or occupational tax that applies in the locality.

3. Utilities	Only provided by cities in most of the case in Minnesota. May handle up to six utilities.	2 ways of computing costs: - Average Costs based upon the existing cost and assuming that future additions to this cost will increase accordingly - Marginal Costs where costs are “lumpy”. In this case, the cost appears as a lump-sum cost in the year zero of the analysis	Used to project the expected revenues and costs consecutive to the new business based on the applicable utility rates and the expected level of usage by the facility and new households expected to reside in the community.
3. Employment/Industry Characteristics Information	Facility employment and payroll, percentage of new hires previously unemployed and industry value added per \$ of revenue.	Resident Households = (Total Households) times (Percent City or County Residents/100)	Used to predict the number of new households for resident employees.

4. Monetary Incentives	Operating Support (i.e., incentives occurring over the time horizon of the analysis) and Development Support (i.e., financial incentive like free land given to the prospect)	Compute cost and benefit flows and use the discount rate to compute the net present value.	Used to project the expected returns on the monetary incentives granted to the business.
5. Estimated Useful Life	Transportation, Municipal and Education System Investments.	The software program projects on a per household basis the expected costs or revenues increase due to the new business and employee residents.	Used to capture the salvage values at the end of the analysis.
6. Property Values	Land and facility values, equipment and furnishings property	Note that land is assumed to hold value while the building is depreciated over 40 years.	Used to estimate the content of the facility subject to local property tax.

	values and inventory value.	All other equipments have different depreciation schedule.	
7. Tourism Information	Needed if the project has a touristy aspect.		

Government entities

There are three jurisdiction entities you may choose as local community in using LOCI: the county, the city and the school district. The county and city levels are quite easy to do in Minnesota⁴. The school district is the most difficult to do. The school district is a government entity with particular geographic and fiscal characteristics. They usually span over counties and they don't levy taxes themselves. They just have to make a budget and communicate to the county their needs. Counties will then collect taxes and give it to the school district. There is no flux of money back from the school district to the county. The interest of this level of analysis is to capture the impact of new businesses on the school system that you can't get by running a county level analysis. One more jurisdiction difficult to analyze using LOCI is the *township*.

⁴ There still are some problems in the way to use data that we will raise in the next section.

3. *LOCI: limitations in Minnesota*

Data

There are at least two major issues related to the data. First, heading labeling is different and sometimes it is important to look for additional information on the exact content of the aggregate to find out if it fits what is meant by the software developers. In the Financial

Reports, liquor license, permit fees collected, business license or occupation taxes are presumably put together in "Licenses and Permits". All other headings, except Investment earnings and intergovernmental transfers, are sum up and appear as miscellaneous revenues. This should not bias the result of the analysis. In fact, all these data will be projected on a per household basis. The exact location you chose to put them is not that much important as far as you enter them.

The most interesting issue to rise is the second one:

Intergovernmental transfers and Investments Earnings are simply disregarded. According to LOCI promoters the reason is that "it is difficult to match the transfers (revenue) with what they are being used for on the expenditure side. And lastly, all expenditures and all revenues with the exception of sales taxes and property taxes are forecast on a per household basis.

Household formation is a function of the new employment.

However, there is no adjustment to smooth household formation over several years as probably happens in reality."

This led us to be cautious in using the analysis results. In Minnesota, the amount of Intergovernmental transfers for the

counties is sometimes twice bigger than all other counties revenues put together. In the case of Sherburne County⁵ for example, Intergovernmental transfers amount \$ 17,088,640 when all other sources of revenues sum up to \$ 9,237,820. Counties' budgets equilibrium rely on this source of funding that help equilibrate their annual budget. A fiscal and economic impact analysis that doesn't take into account this fact will significantly underestimate local government's revenues in Minnesota and might lead to biased conclusions about the position of local government finances.

Interactions between different levels of analysis

Due to the particular situation of Minnesota, we wanted to run the analysis at the three jurisdiction levels available in LOCI: city, county and school district. We chose the development event and the city in which it will take place. Then we run

⁵ See Sherburne County *Financial Report for the year ending on December 31, 1999, Exhibit of Combined Statement of Revenues, Expenditures, and Changes in Fund Balance*.

LOCI separately for the city, county and school district. The aim is to be able to demonstrate the effects of the new business on each governmental level separately, in order not to miss any of the important effects (such as education and utility costs).

One question came in mind: is there a way to allows those levels to interact (the "black box" problem) in LOCI?

It turns out that there is no way to enable separate simulations to interact explicitly. Usually, interactions are used to capture changes in demand/supply and prices, but LOCI doesn't have any of that sophistication. In fact, prices are all held constant, i.e., we assume no change in relative prices. LOCI is essentially just an accounting framework and not a general equilibrium model that can forecast how market conditions change and endogenous variables interact. Providers say that it was intentionally kept simple, because their clients for the most part don't have the background to run a simulation model like REMI for example.

4. Documenting Data Sources

We will only go over community data sources as project data should be provided by the business that is requiring financial incentive or assistance.

Property and Sales Taxes

There is no sales tax collected by counties in Minnesota. Information on non-residential and residential tax and assessment rates came from local government. For this case, Alex Wyckstrom provided data. Net assessed value was not divided into two parts: real and personal property. I did it considering that personal property could be 1 % of the total net assessed value I got from Alex (\$ 4,063,198,960). I chose 1 % simply because this is the proportion for data in Wright County. This could not be the case. So we need to be cautious.

Utilities

There are spaces to enter up to 6 types of utility: water, waste water, solid waste, electricity and two other utilities. It is important to know if the concerned community provides the utility under consideration. We may have many scenarios:

(i) Households pay for utility service provision to the local government which set up contracts with firms to provide the services;

(ii) the local government owns firms that provide the service;

(iii) private firms provide the service and the local government draws any revenue from the provision of this service.

It turns out that the three counties do not provide utilities. The only utility still to find out is "solid waste". Sanitation appearing on the expenses-side of the county's financial document may be solid waste management cost.

Retail Activities

There are no sale taxes in any of Minnesota Counties. Most of the cities in Minnesota don't have their own sales tax neither, except Cook County, Duluth, Hermantown, Mankato, Minneapolis, New Ulm, Proctor, Rochester, St. Cloud, St. Paul, Two Harbors, Willmar and Wimona. This information is not needed for the three counties we were looking at. In the event one has to run the analysis for a county (City) where there are sales taxes, information about "Effective Buying Income" and "Retail Sales" can be found in *Survey of Buying*

Power and Media Markets yearly published by Sales & Marketing Management. For the present research, this publication was available in Wilson Library, University of Minnesota.

Local Government Information

Local government information can be found:

- either on the State Auditor's webpage:

<http://www.osa.state.mn.us/listTmp.lasso?page==pagList-Reports&-nothing>

- or from the local government Financial Report, particularly the exhibit of *Combined Statement of Revenues, Expenditures, and Changes in Fund Balance*.

Demographic Information

Number of Households in the jurisdiction comes from "Census 2000": <http://www.census.gov/dmd/www/databank.html>

We have used default values for "disposable personal income as a percent of total income" and "state or regional average households in the jurisdiction". The software provides these default data without providing the formula that is used to

compute them. Data on "Total jobs in the jurisdiction" came from "Industry Employment and Wage Information" at:

<http://www.mnworkforcecenter.org/lmi/es/202fct1.htm>

The "Educational System Information" is a somewhat difficult data to estimate. The major problem is that school districts do not coincide geographically with counties boundaries. There are school districts that are completely contained in the counties boundaries, but some of them span over two or more counties. Taking enrollment data from school districts in the counties boundaries only underestimates the total enrollment in the school system. Conversely, you cannot incorporate enrollment data from schools in the area surrounding the considered county without selecting only those of students residing in the county. We made things easier for this test and just took schools in the counties boundaries. We considered this number as the total enrollment number in the county's school system. Then we divided this number by the number of households in the county to obtain an estimate of public school enrollment per household. In the LOCI tutorial it is said that this estimate has to be adjusted based on the fact that new

employees, due to their broader age composition, will more likely contribute students to the school system than the existing community. Nothing is suggested on how to do this adjustment. We have just rounded the number to the next decimal.

Another difficult information to get is "Commuting Pattern Information". These information can be found by interviewing businesses in the area and try to get information on the employees' Zip code to compute a proportion of people living in the incorporated or unincorporated areas filling new jobs in the county. Businesses are somewhat reluctant to provide such information. Data we're using here are adapted data from Hall County case provided with the software.

"Total personal income in the jurisdiction" came from "Bureau of Economic Analysis", U.S. Department of Commerce. The most recent data are for 1999.

<http://www.bea.doc.gov/bea/regional/reis/drill.cfm>

"Total number of commercial establishments in the jurisdiction" = "Private nonfarm establishments with paid employees, 1998" from Census 2000???

Most of this data are default data computed by LOCI.

5. Concluding notes

We have spent the greatest part of this research on data collection. The most difficult part of the work consisted in getting property tax information and project related information. Property tax information took time to be provided by local government services and businesses were reluctant to provide prompt cooperation to the research. We ended up with only complete data for one business in Wright County without property tax information for this county. This situation didn't allow us to spend sufficient time running different levels of analysis and interpreting the result. Nevertheless, we think we have provided the counties with enough information to make LOCI friendly usable and we know more about LOCI possibilities and limitations in Minnesota.